

IN THE CLAIMS

1. (currently amended) A phage particle displaying on its surface;

(a) a dimeric T-cell receptor (dTCR), wherein the dTCR comprises:

(i) a first polypeptide in which a TCR α chain variable domain sequence is fused to the N terminus of a TCR α chain constant domain extracellular sequence,
and

(ii) a second polypeptide wherein a TCR β chain variable domain sequence is fused to the N terminus of a TCR β chain constant domain extracellular sequence; or

(b) a single chain TCR (scTCR) polypeptide, wherein the scTCR polypeptide comprises:

(i) a first segment comprises a TCR α chain variable domain sequence fused to the N terminus of a TCR α chain constant domain extracellular sequence,

(ii) a second segment comprising a TCR β chain variable domain sequence fused to the N terminus of a TCR β chain constant domain extracellular sequence;
and

(iii) a linker sequence linking either (1) the C terminus of the first segment of the N terminus of the second segment or (2) the C terminus of the second segment to the N terminus of the first segment,

wherein the scTCR or dTCR comprises an interchain disulfide bond linking residues of constant domain sequences.

2-5. (canceled)

6. (previously presented) The phage particle of claim 1 wherein the C-terminus of one member of the dTCR or the C-terminus of the scTCR polypeptide is linked by a peptide bond to a surface exposed residue of the phage particle.

7-54. (canceled)

55. (withdrawn) A method for the identification of TCRs with a specific characteristic, said method comprising subjecting a diverse library of TCRs displayed on phage particles as claimed in claim 1 to

a selection process which selects for said characteristic, and isolating proteinaceous particles which display a TCR having said characteristic, and optionally to an amplification process to multiply the isolated particles and/or

a screening process which measures said characteristic, identifying those proteinaceous particles which display a TCR with the desired characteristic and isolating these proteinaceous particles, and optionally to an amplification process to multiply the isolated particles.

56. (withdrawn) The method of claim 55 wherein the specific characteristic is increased affinity for a TCR ligand.

57. (withdrawn) A method for detecting a TCR ligand complex, comprising steps of:

- (i) providing the phage particle of claim 1;
- (ii) contacting the phage particle with a putative ligand complex; and
- (iii) detecting binding of the phage particle to the putative ligand complexes.

58. (withdrawn) The method of claim 57 wherein the putative TCR ligand complex is a peptide-MHC complex.

59. (withdrawn) A method of identifying an inhibitor of the interaction between the phage particle of claim 1 and a TCR-binding ligand, comprising steps of:

contacting the phage particle with a TCR-binding ligand, in the presence of and in the absence of a test compound, and

determining whether the presence of the test compound reduces binding of the phage particle to the TCR-binding ligand, whereby reduced binding identifies the test compound as an inhibitor of the interaction between the phage particle and the TCR-binding ligand.

60-85. (canceled)

86. (previously presented) The phage particle of claim 1 wherein the interchain disulfide bond has no equivalent in native T cell receptors.

87. (previously presented) The phage particle of claim 6 wherein the interchain disulfide bond has no equivalent in native T cell receptors.

88. (withdrawn) The phage particle of claim 1 wherein the interchain disulfide bond is between cysteine residues substituted for Thr 48 of exon 1 of TRAC*01 and Ser 57 of exon 1 of TRBC1*-1 or TRBC2*01 or the non-human equivalent thereof.

89. (withdrawn) The phage particle of claim 1 which is a filamentous phage and which displays on its surface a dTCR polypeptide pair comprising:

a first polypeptide wherein a sequence corresponding to a TCR α chain variable domain sequence is fused to the N terminus of a sequence corresponding to a TCR α chain constant domain extracellular sequence; and

a second polypeptide wherein a sequence corresponding to a TCR β chain variable domain sequence is fused to the N terminus of a sequence corresponding to a TCR β chain constant domain extracellular sequence,

wherein the first and second polypeptides are linked by a disulfide bond between cysteine residues substituted for Thr 48 of exon 1 of TRAC*01 and Ser 57 of exon 1 of TRBC1*-1 or TRBC2*01 or the non-human equivalent thereof.